Application No.: 09/909,931   Docket No.: MWS-076RCE

AMENDMENTS TO THE CLAIMS

1 - 22. (canceled)

23. (previously presented)   A method for block diagram based modeling, the method comprising:

receiving a first input value via a first one of a plurality of pre-lookup search blocks;

receiving a second input value via a second one of the plurality of pre-lookup search blocks;

accessing a first set of breakpoints related to a first dimension via the first one of the plurality of pre-lookup search blocks, the first dimension related to the first input value;

accessing a second set of breakpoints related to a second dimension via the second one of the plurality of pre-lookup search blocks, the second dimension related to the second input value;

generating a first index value or a first distance value based on the first input value and generating a second index value or a second distance value based on the second input value;

performing a first interpolation based on the first index value or the first distance value or based on the second index value or the second distance value using a first interpolation block;

performing a second interpolation based on the first index value or the first distance value or based on the second index value or the second distance value using a second interpolation block; and

generating a first output value or a second output value based on the performing the first interpolation or the second interpolation, respectively, the first output value or the second output value compatible with one or more downstream blocks operating with the block diagram modeling application, downstream applications, or downstream devices.

24 - 30. (canceled)

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